

WHAT IS CLAIMED IS:

1. A gasoline, the gasoline comprising a base fuel and an additive for reducing a pollutant emission, the additive comprising:

- 5 a plant oil extract;
 an antioxidant; and
 a thermal stabilizer.

2. The gasoline of claim 1, wherein the plant oil extract comprises an oil extract of a plant of the *Leguminosae* family.

10 3. The gasoline of claim 1, wherein the plant oil extract is selected from the group consisting of oil extract of vetch and oil extract of barley.

4. The gasoline of claim 1, wherein the plant oil extract comprises chlorophyll.

5. The gasoline of claim 1, wherein the antioxidant comprises β -carotene.

15 6. The gasoline of claim 1, wherein the thermal stabilizer comprises jojoba oil.

7. The gasoline of claim 1, wherein the thermal stabilizer comprises an ester of a C20-C22 straight chain monounsaturated carboxylic acid.

20 8. The gasoline of claim 1, wherein the plant oil extract comprises oil extract of vetch, wherein the antioxidant comprises β -carotene, and wherein the thermal stabilizer comprises jojoba oil.

9. The gasoline of claim 1, further comprising a diluent.

10. The gasoline of claim 9, wherein the diluent is selected from the group consisting of toluene, gasoline, diesel fuel, jet fuel, and mixtures thereof.

11. The gasoline of claim 1, further comprising an oxygenate.

25 12. The gasoline of claim 11, wherein the oxygenate is selected from the group consisting of methanol, ethanol, methyl tertiary butyl ether, ethyl tertiary butyl ether, and tertiary amyl methyl ether, and mixtures thereof.

30 13. The gasoline of claim 1, further comprising at least one additional additive selected from the group consisting of octane improvers, detergents, corrosion inhibitors, metal deactivators, ignition accelerators, dispersants, anti-knock additives, anti-run-on additives, anti-pre-ignition additives, anti-misfire additives, antiwear

additives, antioxidants, demulsifiers, carrier fluids, solvents, fuel economy additives, emission reduction additives, lubricity improvers, and mixtures thereof.

14. The gasoline of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of β -carotene in the gasoline is from about 50:1 to about 0.5:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the gasoline is from about 10:1 to about 0.5:1, and wherein a ratio of milliliters jojoba oil to grams of β -carotene in the gasoline is from about 10:1 to about 0.5:1.

15. The gasoline of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of β -carotene in the gasoline is from about 24.2:1 to about 1.2:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the gasoline is from about 4.0:1 to about 1:1, and wherein a ratio of milliliters jojoba oil to grams of β -carotene in the gasoline is from about 6.0:1 to about 1.3:1.

16. The gasoline of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of β -carotene in the gasoline is from about 24.2:1 to about 7.3:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the gasoline is from about 4.0:1 to about 2.9:1, and wherein a ratio of milliliters jojoba oil to grams of β -carotene in the gasoline is from about 6.0:1 to about 2.5:1.

17. The gasoline of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of β -carotene in the gasoline is about 24.2:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the gasoline is about 4.0:1, and wherein a ratio of milliliters jojoba oil to grams of β -carotene in the gasoline is about 6.0:1.

18. The gasoline of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of β -carotene in the gasoline is about 7.3:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the gasoline is about 2.9:1, and wherein a ratio of milliliters jojoba oil to grams of β -carotene in the gasoline is about 2.5:1.

19. The gasoline of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of β -carotene in the gasoline is about 21.8:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the gasoline is about 4.0:1, and wherein a ratio of milliliters jojoba oil to grams of β -carotene in the gasoline is about 5.5:1.

20. The gasoline of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of β -carotene in the gasoline is from about 4.8:1 to about 1.2:1, wherein

a ratio of grams of oil extract of vetch to milliliters jojoba oil in the gasoline is from about 2.4:1 to about 1.0:1, and wherein a ratio of milliliters jojoba oil to grams of β -carotene in the gasoline is from about 2.0:1 to about 1.3:1.

21. The gasoline of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of β -carotene in the gasoline is about 4.8:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the gasoline is about 2.4:1, and wherein a ratio of milliliters jojoba oil to grams of β -carotene in the gasoline is about 2.0:1.

22. The gasoline of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of β -carotene in the gasoline is about 1.2:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the gasoline is about 1.0:1, and wherein a ratio of milliliters jojoba oil to grams of β -carotene in the gasoline is about 1.3:1.

23. The gasoline of claim 8, wherein a ratio of grams of plant oil extract of vetch to grams of β -carotene in the gasoline is about 3.5:1, wherein a ratio of grams of oil extract of vetch to milliliters jojoba oil in the gasoline is about 2.0:1, and wherein a ratio of milliliters jojoba oil to grams of β -carotene in the gasoline is about 1.7:1.

24. The gasoline of claim 8, comprising from about 0.001 ml to about 0.02 ml jojoba oil per 3785 ml of gasoline, from about 0.00001 g to about 0.01 g of β -carotene per 3785 ml of gasoline, and from about 0.001 g to about 0.05 g oil extract of vetch per 3785 ml of gasoline.

25. The gasoline of claim 8, comprising from about 0.0021 ml to about 0.0095 ml jojoba oil per 3785 ml of gasoline, from about 0.00053 g to about 0.0053 g of β -carotene per 3785 ml of gasoline, and from about 0.0061 g to about 0.023 g oil extract of vetch per 3785 ml of gasoline.

26. The gasoline of claim 8, comprising from about 0.0021 ml to about 0.0095 ml jojoba oil per 3785 ml of gasoline, from about 0.00053 g to about 0.0053 g of β -carotene per 3785 ml of gasoline, and from about 0.0061 g to about 0.013 g oil extract of vetch per 3785 ml of gasoline.

27. The gasoline of claim 8, comprising about 0.0032 ml jojoba oil per 3785 ml of gasoline, about 0.00053 g of β -carotene per 3785 ml of gasoline, and about 0.013 g oil extract of vetch per 3785 ml of gasoline.

28. The gasoline of claim 8, comprising about 0.0021 ml jojoba oil per 3785 ml of gasoline, about 0.00085 g of β -carotene per 3785 ml of gasoline, and about 0.0061 g oil extract of vetch per 3785 ml of gasoline.

5 29. The gasoline of claim 8, comprising about 0.0047 ml jojoba oil per 3785 ml of gasoline, about 0.00085 g of β -carotene per 3785 ml of gasoline, and about 0.018 g oil extract of vetch per 3785 ml of gasoline.

10 30. The gasoline of claim 8, comprising from about 0.0063 ml to about 0.0095 ml jojoba oil per 3785 ml of gasoline, from about 0.0048 g to about 0.0053 g of β -carotene per 3785 ml of gasoline, and from about 0.0061 g to about 0.023 g oil extract of vetch per 3785 ml of gasoline.

31. The gasoline of claim 8, comprising about 0.0095 ml jojoba oil per 3785 ml of gasoline, about 0.0048 g of β -carotene per 3785 ml of gasoline, and about 0.023 g oil extract of vetch per 3785 ml of gasoline.

15 32. The gasoline of claim 8, comprising about 0.0063 ml jojoba oil per 3785 ml of gasoline, about 0.0051 g of β -carotene per 3785 ml of gasoline, and about 0.0061 g oil extract of vetch per 3785 ml of gasoline.

33. The gasoline of claim 8, comprising about 0.0091 ml jojoba oil per 3785 ml of gasoline, about 0.0053 g of β -carotene per 3785 ml of gasoline, and about 0.018 g oil extract of vetch per 3785 ml of gasoline.

20 34. The gasoline of claim 1, wherein the gasoline comprises a reformulated gasoline.

35. The gasoline of claim 1, wherein the gasoline comprises CaRFG3 gasoline.

25 36. The gasoline of claim 1, wherein the gasoline comprises aviation gasoline.

37. A method for producing a gasoline, the method comprising the steps of:
preparing a first additive by combining β -carotene, jojoba oil, and a diluent, the first additive comprising about 4 ml jojoba oil and about 4 g β -carotene per 3785 ml of the first additive;

preparing a second additive by combining a oil extract of vetch, jojoba oil, and a diluent, the second additive comprising about 4 ml jojoba oil and about 19.36 g oil extract of vetch per 3785 ml of the second additive; and

5 adding the first additive and the second additive to a base fuel to produce a gasoline, such that the gasoline comprises from about 0.5 ml to about 5 ml of the first additive per 3785 ml of gasoline and from about 1.2 ml to about 3.6 ml of the second additive per 3785 ml of gasolin.

38. A method for producing a gasoline, the method comprising the steps of:

10 preparing a first additive by combining β -carotene, jojoba oil, and a diluent, the first additive comprising about 32 ml jojoba oil and about 32 g β -carotene per 3785 ml of the first additive;

preparing a second additive by combining a oil extract of vetch, jojoba oil, and a diluent, the second additive comprising about 32 ml jojoba oil and about 155 g oil extract of vetch per 3785 ml of the second additive; and

15 adding the first additive and the second additive to a base fuel to produce a gasoline, such that the gasoline comprises from about 0.0625 ml to about 0.625 ml of the first additive per 3785 ml of gasoline and from about 0.3125 ml to about 0.45 ml of the second additive per 3785 ml of gasoline.

20 39. A method for operating a vehicle equipped with a gasoline-powered engine, the method comprising the step of:

combusting a gasoline in the engine such that a quantity of a pollutant is produced, wherein the gasoline comprises a base fuel, a plant oil extract, an antioxidant, and a thermal stabilizer, and wherein the quantity of the pollutant produced by combustion of 3785 ml of the gasoline is less than a quantity of the pollutant produced upon combustion of 3785 ml of the base fuel.

25